

CLAIMS

What is claimed is:

1. A method for allocating resources in a wireless communication system including a base station and a radio network controller (RNC), the method comprising the steps of:

receiving an allocation request for a new service at the RNC;

selecting a set of resources by the RNC to allocate to the new service that takes into account the capabilities of the base station; and

if a set of resources can be found that does not exceed the capabilities of the base station,

then executing the allocation request by the RNC;

else rejecting the allocation request by the RNC.

2. The method according to claim 1, wherein the selecting step includes: examining the capabilities of the base station during the selection of the resources and selecting resources that do not exceed the capabilities of the base station.

3. The method according to claim 1, wherein the selecting step includes: examining a first set of base station capabilities; determining whether the set of resources would exceed any of the first set of capabilities;

terminating the method if any of the first set of capabilities would be exceeded;

examining a second set of base station capabilities;

determining whether the set of resources can be allocated without exceeding the second set of capabilities;

allocating the resources if neither set of capabilities would be exceeded.

4. The method according to claim 3, wherein the first set of base station capabilities includes:

- a number of transport channels;
- a number of coded composite transport channels; and
- a number of transport blocks.

5. The method according to claim 4, wherein if the new service is an uplink service, the first set of base station capabilities further including:

- a number of bits that can be received in intersected transmission time intervals;

and

- a number of bits that can be received in transmission time intervals that end at the same time.

6. The method according to claim 4, wherein if the new service is a downlink service, the first set of base station capabilities further including:

- a number of bits that can be transmitted in intersected transmission time intervals; and

- a number of bits that can be transmitted in transmission time intervals that start at the same time.

7. The method according to claim 3, wherein the second set of base station capabilities includes:

- a minimum spreading factor;
- a maximum number of physical channels per timeslot;
- a maximum number of physical channels per frame; and
- a maximum number of timeslots per frame.

8. The method according to claim 1, further comprising the step of:
providing the RNC with a list of the capabilities of the base station.

9. The method according to claim 8, wherein the providing step includes sending a configuration file to the RNC.

10. The method according to claim 8, wherein the providing step includes downloading operation and maintenance data to the RNC.

11. A method for evaluating an allocation request in a wireless communication system having a Node B and a base station, the method comprising the steps of:

- receiving the allocation request at the Node B;
- evaluating the capabilities of the base station at the Node B; and
- if the capabilities of the base station would not be exceeded,
 - then executing the allocation request by the Node B;
 - else rejecting the allocation request by the Node B.

12. The method according to claim 11, wherein the evaluating step includes: providing the Node B with a list of the capabilities of the base station; and analyzing the capabilities required to execute the allocation request.

13. The method according to claim 12, wherein the providing step includes sending a configuration file to the Node B.

14. The method according to claim 12, wherein the providing step includes downloading operation and maintenance data to the Node B.

15. A method for allocating resources to reduce processing requirements in a wireless communication system including a base station and a single radio network controller (RNC), the method comprising the steps of:

- receiving an allocation request for a new service at the RNC;

selecting a set of resources by the RNC to allocate to the new service that takes into account the capabilities of the base station;

executing the allocation request by the RNC if a set of resources can be found that does not exceed the capabilities of the base station; and

staggering transmission time interval (TTI) starts and ends to spread the load on the base station between different frames.

16. The method according to claim 15, wherein the staggering step includes:

(a) choosing a dedicated physical channel offset (DOFF) value for an uplink coded composite transport channel (CCTrCH) to stagger the TTI ends; and

(b) choosing a DOFF value for a downlink CCTrCH to stagger the TTI starts.

17. The method according to claim 16, wherein if the DOFF value is required to be the same for both uplink and downlink services, then one DOFF value is selected such that the capabilities of the base station for both the uplink and the downlink will not be exceeded.

18. The method according to claim 16, wherein step (a) includes:

obtaining a number of bits for each transport channel in the allocation request;
and

choosing a DOFF value which does not cause the base station capabilities to be exceeded.

19. The method according to claim 16, wherein step (a) includes:

obtaining a number of bits for each transport channel in the allocation request;
and

choosing a DOFF value which will not cause base station capabilities to be exceeded and will minimize the number of bits that need to be processed by the base station in TTIs ending at the same time.

20. The method according to claim 16, wherein step (b) includes:
obtaining a number of bits for each transport channel in the allocation request;
and
choosing a DOFF value which does not cause the base station capabilities to be exceeded.

21. The method according to claim 16, wherein step (b) includes:
obtaining a number of bits for each transport channel in the allocation request;
and
choosing a DOFF value which will not cause base station capabilities to be exceeded and will minimize the number of bits that need to be transmitted by the base station in TTIs starting at the same time.